Comparing the Youth Psychopathic Traits Inventory (YPI) and the Psychopathy Checklist-Youth Version (PCL-YV) Among Offending Girls

Preeti Chauhan[1], Shayne N. Ragbeer[2], Mandi L. Burnette[2], Barbara Oudekerk[2], N. Dickon Reppucci[3], and Marlene Moretti[4]

[1]John Jay College of Criminal Justice, New York, NY, USA

[2]University of Rochester, Rochester, NY, USA

[3]University of Virginia, Charlottesville, VA, USA

[4]Simon Fraser University, Burnaby, British Columbia, Canada

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Abstract

Using a multimeasure longitudinal research design, we measured psychopathy with the Youth Psychopathic Traits Inventory (YPI) and the Psychopathy Checklist–Youth Version (PCL-YV) among 122 offending girls. We examined the psychometric properties of the YPI, investigated the association between the YPI and the PCL-YV, and assessed their concurrent and longitudinal association with externalizing problems on the Youth/Adult Self-Report and violent and delinquent behaviors on the Self-Report of Offending. Alphas for the YPI were adequate and there were small to moderate correlations between the YPI and PCL-YV, suggesting that each assesses distinctive personality features. The YPI and the PCL-YV were approximately equivalent in their association with concurrent and longitudinal outcomes with two exceptions, where the YPI demonstrated a stronger association with antisocial behavior. Concurrently, there was a divergent relationship between the psychopathy factor scores and antisocial outcomes. Within 2 years, the psychopathy affective factor, which constrained the YPI and PCL-YV to be equivalent, was associated with externalizing behaviors and the YPI affective factor was associated with violent offending. Approximately 4½ years later, neither measure was significantly related to antisocial behavior after accounting for past behavior. Reasons for continuity and discontinuity in risk identification are discussed.

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Introduction

Psychopathy, a personality style characterized by glibness, superficial charm, lack of empathy, and disregard for social norms (Cleckley, 1941, 1976), has been predominantly studied in adult prison populations. Given that the construct is associated to antisocial outcomes in adults, researchers have begun to examine the validity of this construct among adolescents (Edens & Cahill, 2007; Gretton, Hare, & Catchpole, 2004; Viljoen, Elkovitch, Scalora, & Ullman, 2009). The majority of research on adolescent psychopathy has focused on community samples (Bijttebier & Decoene, 2009; Frick, Kimonis, Dandreaux, & Farell, 2003; Marsee, Silverthorn, & Frick, 2005; van Baardewijk et al., 2008), clinical samples (Penney & Moretti, 2007; Penney, Moretti, & Da Silva, 2008), or adolescent male offenders (Dolan & Rennie, 2006a, 2006b; Edens & Cahill, 2007; Lee, Klaver, Hart, Moretti, & Douglas, 2009; Lee, Salekin, & Iselin, 2010; Lee, Vincent, Hart, & Corrado, 2003; Murrie & Cornell, 2002; O'Neill, Lidz, & Heilbrun, 2003; Skeem & Cauffman, 2003). Only a few studies have examined psychopathy among offending girls (Odgers, Reppucci, & Moretti, 2005; Vincent, Odgers, McCormick, & Corrado, 2008). The recent narrowing of the gender gap in juvenile offending as well as a need for gender-specific assessment and intervention (Puzzanchera, Adams, & Sickmund, 2010; Sickmund, Sladky, Kang, & Puzzanchera, 2008) calls for an examination of this personality construct among offending girls.

This study compared two adolescent psychopathy measures among 122 offending girls: the Psychopathy Checklist-Youth Version (PCL-YV; Forth, Kosson, & Hare, 2003) and the

Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002). Previous studies examining psychopathy among adolescents have either used one measure of psychopathy, analyzed data concurrently or used short follow-up periods, and/or relied mainly on rearrest data, which does not capture undetected offenses. This article addresses these limitations. First, we examined the psychometric properties of the YPI[1]. Next, we assessed the convergent association between the YPI and the PCL-YV. Last, we investigated each measure's concurrent and longitudinal relationship to antisocial behaviors. This study extends previous literature in three ways: (a) it assesses the construct of psychopathy among girls at the extreme end of the risk continuum, (b) it uses a multi-measure, longitudinal research design, and (c) it moves beyond examining official arrest statistics, which requires contact with the system, to examining self-report of offending.

Psychopathy Checklist–Youth Version

The PCL-R (Hare, 1991, 2003) and its downward extension, the PCL-YV, require a semistructured interview and collateral information for coding 20 items that tap into affective, interpersonal, behavioral, and lifestyles features. As such, both measures are fairly time-intensive and require extensive interviewer training (Hare, 2003). Although debate exists with regard to the use of the adult version of the PCL in clinical and legal settings (Bersoff, 2008; Edens, Skeem, & Kennealy, 2009; Hare & Neumann, 2010; Lyon & Ogloff, 2000; Skeem & Cooke, 2010a, 2010b), even greater caution is warranted in the application of this instrument to adolescents given that normative adolescent traits may mimic psychopathic features (Edens, Skeem, Cruise, & Cauffman, 2001; Edens & Vincent, 2008; Lynam, 2002; Seagrave & Grisso, 2002). A meta-analysis suggests that the PCL measures (PCL, PCL-R, PCL-SV, PCL-YV, and Hare Checklist), as a group, are moderately associated with institutional adjustment and

recidivism (i.e., mean weighted Cohen's *d*=.55 for the total score; Leistico, Salekin, DeCoster, & Rogers, 2008), with the behavioral factor scores (i.e., Factor 2 Cohen's *d*= .60) being a stronger predictor relative to the affective and interpersonal factor scores (i.e., Factor 1 Cohen's *d* = .38). Among adolescent samples, a meta- analysis of prospective studies found small to moderate associations between total PCL scores and general recidivism (*rw* = .24) and violent recidivism (*r* = .25; Edens, Campbell, & Weir, 2007). Again, the behavioral factor scores (*rw* = .26 to .29) were higher for both outcomes relative to the affective and interpersonal factor scores (*r* = .18 to .19). Among adolescent females, however, the effect sizes were smaller and nonsignificant (*r* = .13) relative to adolescent males (*rw* = .25). Furthermore, Vincent et al. (2008) found that PCL-YV scores were associated with both nonviolent and violent recidivism for males in a4½-year longitudinal follow-up, but were not associated with recidivism for females. When breaking this down by factor, this relationship was driven mainly by the behavioral factor scores among males. Similarly, Odgers et al. (2005) failed to find a longitudinal association between the PCL-YV, using the total and factor scores, and future rearrest at approximately 8 months postrelease. Hence, the prospective association between the PCL-YV and criminal behavior, using official records and rearrest data, lacks compelling empirical support among female adolescents.

There are three competing explanations for these nonsignificant effect sizes among adolescent girls. First, the construct of psychopathy among adolescent females may manifest in ways that are not captured by the PCL measures but may be captured by other measures of psychopathy such as the YPI. Second, psychopathy may be adequately assessed by the PCL-YV but may not be associated with antisocial behaviors in girls in the same way it is for boys. Third, the association between psychopathy and antisocial behavior may exist but is better captured by self-report of offending relative to rearrest, which requires contact with the system.

Youth Psychopathic Traits Inventory

The YPI (Andershed et al., 2002) is a self-report inventory used to assess psychopathic traits in adolescents. The three dimensions of the YPI, affective, interpersonal, and behavioral[2], conceptually map on to the three-factor structure of PCL-R (Cooke & Michie, 2001; Odgers et al., 2005). The YPI has the benefit of being less intensive, with regard to time and training, relative to the PCL-YV. Critics argue that there are theoretical and methodological limitations to assessing psychopathy, a personality construct characterized by lying and deceit, with self-report measures, which rely on honesty and valid self-disclosure. However, some researchers posit that self-report measures can identify psychopathic traits in adolescents (Frick, Bodin, & Barry, 2000) and results have been promising with regard to psychometric properties and predictive utility of this instrument.

The YPI has demonstrated adequate internal consistency (with alphas greater than .68) among adolescents (Andershed et al., 2002), and within community, clinical, and forensic populations (Andershed, Hodgins, & Tengström, 2007; Cauffman, Kimonis, Dmitrieva, & Monahan, 2009; Dolan & Rennie, 2007; Poythress, Dembo, Wareham, & Greenbaum, 2006; Salekin, Debus, & Barker, 2010; Skeem & Cauffman, 2003). Several studies show a significant association between the YPI and criminal or antisocial behavior (Dolan & Rennie, 2006a; Poythress et al., 2006; Salekin et al., 2010). For instance, Salekin et al. (2010) found that the interpersonal and affective factor scores of the YPI were associated with violent recidivism at a 3-year follow up ($r = .20$ and $r = .32$, respectively) whereas the behavior subscale was not ($r = .14$).

Burgeoning support for the use of the YPI (Campbell, Doucette, & French, 2009; Declercq, Markey, Vandist, & Verhaeghe, 2009; Hillege, Das, & de Ruiter, 2010; Vaughn & Howard, 2005; Veen et al., 2011) warrants increased investigation into its longitudinal association with antisocial behavior among female samples. More research is needed to determine whether the YPI is a reasonable costeffective assessment of psychopathy among offending girls and a valid predictor of future antisocial behavior.

Comparing the PCL-YV and the YPI

To date, only a few studies have investigated the convergent validity between the PCL-YV and the YPI. Andershed et al. (2007) found moderate correlations between the three-factor scores of the PCL-YV and the three-factor scores of the YPI among a community sample of male (*rs* = .38 to .46) and female (*rs* = .27 to .48) adolescents receiving services for substance use problems. Dolan and Rennie (2006b) found some significant correlations between YPI and PCL-YV total and factor scores among male adolescents with conduct disorder (rs = .01 to .38). Among incarcerated males, studies show small-to-moderate correlations (rs = .09 to .35) between the YPI and PCL-YV factor scores (Cauffman et al., 2009; Skeem & Cauffman, 2003) with the relationship between interpersonal subscales being the strongest.

With regard to antisocial outcomes, the PCL-YV interpersonal, criminal behavior (Hare's fourth factor), and total score predicted subsequent disciplinary infractions (r = .33) and violent infractions (r = .25) among males with conduct disorder, whereas the YPI did not (rs = −.01 to .00; Dolan & Rennie, 2006b). When using categorical outcomes, the PCL-YV demonstrated stronger relationships with violent infractions (area under the curve [AUC] > .70) and the YPI lifestyle factor showed modest associations with both disciplinary and violent infractions (AUC

= .63 to .64). Skeem and Cauffman (2003) found a divergent association at a 1month follow-up—the YPI lifestyle factor score was most strongly related to all types of institutional infractions (AUC =.67 to .69). For the PCL-YV, the interpersonal factor was associated with violence (AUC = .62) whereas the affective factor was associated with disciplinary infractions (AUC = .68). A more recent study (Cauffman et al., 2009) compared the YPI and the PCL-YV in predicting offending at 6 months and 12 months after accounting for age, days in confinement, prior offending, and race. Both the YPI and PCL-YV measures predicted total self-report of offending at 6 months (β_{YPI} = .13, $\beta_{PCL\text{-}YV}$ = .20) and 12 months (β_{YPI} = .08, $\beta_{PCL\text{-}YV}$ = .18), with the PCL-YV demonstrating slightly stronger predictive power relative to the YPI. In terms of factor scores, only the PCL-YV criminal behavior factor (Hare's fourth factor) and the YPI interpersonal factor predicted self-report of offending at 6 months ($\beta_{YPI\text{-}INT}$ = .14, $\beta_{PCL\text{-}YV\text{-}CB}$ = .19). All three studies focused exclusively on offending by adolescent males, limiting the generalizability of these results to offending by females.

The Present Study

PCL-YV-CB The goal of this study was to further investigate the construct of psychopathy among offending girls by using two different measures. Importantly, this study examined the relation of psychopathy to self-report of antisocial behaviors, rather than rearrest data, through a longitudinal framework. As such, we sought to assess the psychometric properties of the YPI, examine convergence between the YPI and PCL-YV and investigate the relationship between psychopathy factor scores and their associations with concurrent and longitudinal externalizing problems, as well as violent and delinquent offending. This is the first study to examine these relationships among a group of offending girls who are at the high end of the risk continuum.

Based on previous research, we hypothesized the following:

1. Similar to previous studies with incarcerated males (Cauffman et al., 2009; Skeem & Cauffman, 2003), the YPI will be internally consistent with alphas greater than .70.
2. As demonstrated by Skeem and Cauffman(2003), there will be small to moderate correlations between the YPI and PCL-YV factor and total scores.
3. There will be significant concurrent associations between both the measures and externalizing problems as well as violent and delinquent offending. Given the mixed findings from previous research (Cauffman et al., 2009; Odgers et al., 2005; Skeem & Cauffman, 2003; Vincent et al., 2008), we did not make a priori hypotheses with regard to the longitudinal associations between psychopathy factor scores and antisocial behaviors.

Method

Participants

Wave 1 (W-1). Participants from a juvenile correctional center were enrolled as part of the Gender and Aggression Project, Virginia site. The sample represented 93% of the girls sentenced to secure custody over a 14-month period in 2003 and 2004. For the current study, we included only girls (N = 122) who were administered the YPI and the PCL-YV. Girls ranged in age from 13 to 19 years (M = 16.71 years; SD = 1.28). The sample was composed of 39% White, 50%Black, and 11% other ethnicities (e.g., Native Americans, Hispanics). Official records indicated that the sample had severe histories of violence; 81% had a prior violent charge (e.g., assault and battery, armed robbery, and/or attempted murder) and 97% reported engaging in

violent activity prior to incarceration (e.g., armed robbery, using a weapon during a fight, a fistfight, and/or shooting at someone).

Wave 2 (W-2). To be eligible for W-2, girls had to have been released from the correctional facility for a minimum of 6 months. Most girls (93%) met inclusion criteria for W-2. Of those eligible (n = 113), 87 participated, yielding a 77% retention rate. The amount of time the girls had been released ranged from 6 to 44 months (M = 20.91 years; SD = 8.27). Age for W-2 ranged from 16 to 23 years (M = 18.90 years, SD = 1.54). No significant differences were present between participants at W-1 and W-2 in terms of their age at W-1, $t(83.58) = 0.87$, $p = .38$, severity of previous criminal charges, $t(119) = 0.24$, $p = .81$, self-report of previous violence, $t(120) = -0.61$, $p = .55$, and self-report of previous delinquency, $t(114) = -0.70$, $p = .49$.

Wave 3 (W-3). All girls from W-1 were eligible to participate in W-3; 103 girls participated, yielding a 84% retention rate. Eight girls who were interviewed at W-2 were not interviewed at W-3 and only 11 (7%) of the girls were not assessed at either W-2 or W-3. The amount of time the girls had been released ranged from 35 to 77 months (M = 55.31 years, SD = 8.75) and averaged about 4½ years. The amount of time between W-2 and W-3 ranged from 23 months to 46 months (M = 33.52, SD = 5.64). Age for W-3 ranged from 18 to 25 years (M = 21.71 years, SD = 1.41). There were no significant differences between girls interviewed at W-3 and those not interviewed in terms of self-report of previous violence, $t(120) = 0.75$, $p = .45$, and self-report of previous delinquency, $t(114) = 0.50$, $p = .62$. However, the girls interviewed at W-3 were approximately 1 year younger at W-1, $t(120) = 2.74$, $p < .01$, and had more severe criminal charges at W-1, $t(38.17) = 2.30$, $p < .05$, than the girls who were not interviewed at W-3.

Procedure

W-1. Participants completed three to four individual assessments conducted by doctoral students in psychology. Self-report, diagnostic interview, and archival data were gathered by graduate or advanced undergraduate students in psychology. Because of restrictions imposed by the correctional facility, no compensation other than snacks and refreshments were provided.

W-2. Data collection took place over an 18-month period. Girls were interviewed individually in the community, at juvenile correctional centers, or at adult jails or prisons, if they had been reincarcerated since release. Three participants were not geographically accessible and were interviewed via telephone. Assessments were 90 minutes long and included interview and self-report measures. Girls were compensated $50 unless they were incarcerated (because of institutional regulations).

W-3. Data collection took place over a 16-month period. Procedures were similar to those described in W-2. Assessments were 4 hours long and included interview and self-report measures. Thirteen participants were not geographically accessible and completed 2 hours of self-report measures via mail and 2 hours of interviewing via telephone. Girls were compensated $125.

For girls younger than 18 years, active parental consent was obtained for W-1 and W-2. A federal certificate of confidentiality from the Department of Health and Human Services was obtained to protect participants and their families. Furthermore, institutional review board approvals were obtained through the University of Virginia, Virginia Department of Juvenile Justice, and Virginia Department of Corrections.

Measures

Predictor Variables

Psychopathy Checklist–Youth Version. The PCL-YV (Forth et al., 2003), administered at W-1, is a 20-item symptom rating scale that assesses the affective, interpersonal, and behavioral components of psychopathy. Symptom ratings are based on a semistructured interview and coding of collateral information, including review of case history files. Each item is scored on a 3-point scale (0 = item does not apply, 1 = item applies somewhat, 2 = item definitely applies). Prior to data collection, four interviewers completed a PCL-YV training session and rated five "file-only" PCL-YV cases. An expert in the field provided individual feedback to each interviewer based on these ratings. In field, inter-rater agreement was computed based on paired ratings of 12 cases and were acceptable (intra-class correlation coefficients .81 to .89); further details regarding inter-rater agreement are available in Odgers et al. (2005). With this sample, there was limited structural support for the Cooke and Michie (2001) three-factor model relative to the traditional two-factor model (Hare, 1991) and the more recent four-factor model (Hare, 2003; Odgers, 2005). As such, we used the three-factor model in the current analyses.

Youth Psychopathic Traits Inventory. The YPI (Andershed et al., 2002; Andershed et al., 2007), administered at W-1, is a 50-item self-report measure designed to assess characteristics of juvenile psychopathy. Each item is rated on a 4-point scale (0 = does not apply at all, 1 = does not apply well, 3 = applies fairly well, 4 = applies very well). The items constitute 10 subscales, with five items each, including dishonest charm, grandiosity[3], lying, manipulation, callousness, unemotionality, remorselessness, impulsivity, thrill seeking, and irresponsibility. Previous research suggests a three-factor structure that can be derived from these 10 subscales (Andershed et al., 2007; Dolan & Rennie, 2006a). These three factors map onto the same constructs as the PCL-YV: (a) interpersonal factor including dishonest charm, grandiosity, lying, and

manipulation subscales; (b) affective factor including the callousness, unemotionality and remorselessness subscales; and (c) lifestyle factor including impulsiveness, thrill seeking, and irresponsibility subscales.

Outcome Variables

Achenbach scales. The Youth Self-Report (YSR; Achenbach, 1991) and the Adult Self-Report (ASR; Achenbach & Rescorla, 2003) provide self-report ratings on general psychopathology and behavioral difficulties. The YSR was used at W-1, whereas the ASR was used at W-2 and W-3 because it was designed for adults aged 18 to 59 years. For both instruments, responses were measured on a three-point scale (0 = never or not true, 1 = sometimes or somewhat true, 2 = often or very true) and were reported on behaviors occurring in the past 6 months. The YSR and ASR are widely used and demonstrate adequate validity and reliability (Achenbach, 1991; Achenbach & Rescorla, 2003). The current study converted the YSR and ASR scores to T-scores and used the broadband subscale of externalizing problems[5].

Self-Report of Offending–Revised (SRO). The SRO measured violent and delinquent offending across the three waves (Elliott, Huizinga, & Menard, 1989). For W-1, the questions were stated as "have you ever" participated in a range of activities. For W-2 and W-3, the questions were stated as how many times have you engaged in this behavior "since the last time we spoke." The violent behaviors included (a) carrying a gun, (b) using a weapon to get money or things from people, (c) using a weapon while fighting another person, (d) participating in gang activity, (e) engaging in fistfights, (f) attacking someone with the idea of seriously hurting or killing them, and (g) shooting at someone. The delinquent behaviors included (a) driving drunk, (b) selling marijuana, (c) selling hard drugs, (d) breaking in or trying to break into a building or

vehicle to steal something, (e) stealing or trying to steal a vehicle to keep or sell, and (f) being paid to have sexual relations with someone[6].Alphas were generally above the acceptable cutoff of .70 for violent offending but were lower for the delinquent subscale at W-3 (see Table 1).

At W-1, 97% of the sample engaged in violent acts and 75% had engaged in delinquent acts. At W-2, 59% of the sample engaged in violent acts and 33% in delinquent acts. Last, at W-3, 67% had engaged in violent acts and 65% in delinquent acts.

We sought to make our assessment of problematic behaviors more comprehensive by using both the YSR/ASR and the SRO. The YSR/ASR assesses externalizing behaviors in the remote time period of the interview (6 months) whereas the SRO assesses antisocial behaviors in a longer time frame (ever for W-1 or since the last interview for W-2 and W-3). This allowed us to capture a wide array of problematic behaviors through multiple time frames.

Covariate

Time at risk. Time at risk was calculated for W-2 and W-3. For W-2, time at risk was calculated as the time between release and the W-2 interview. For W-3, time at risk was calculated as the time between the W-2 and W-3 interview.

Results

Analytic Strategy

First, we examined the psychometric properties of the YPI by computing the reliability of the subscales. Next we correlated the PCL-YV and YPI scores to examine convergent validity. Third, we conducted three autoregressive longitudinal path models (i.e., YSR/ASR externalizing behaviors, SRO violence, and SRO delinquency) with the six PCL-YV and YPI factor scores,

time at risk, and prior scores from W-1and W-2[7]. Using individual parameter testing, we constrained the two theoretically related pathways (e.g., YPI affective factor and PCL-YV affective factor) to be equivalent in their relationship with each of the outcomes and compared the fit statistics with an unconstrained model. If there was a significant difference, it would suggest that either the YPI or the PCL-YV factor had a significantly stronger association to the outcome and the pathways were allowed to vary for the outcome. Otherwise, the theoretically related pathways were constrained to be equal, indicating that both measures were similar in their association with the outcome. The final models presented are based on equivalence testing for the individual parameters. Notably, we did not conduct longitudinal path models using the total scores for psychopathy measures or SRO given the small sample size and the possibility of inflated Type I errors.

We ran all correlations and path models with Mplus Version 6.12 (Muthén & Muthén, 1998-2010) because it uses the full information maximum likelihood method to handle missing data. Given that W-3 participants were slightly younger at W-1 and had more severe criminal charges, this method allowed for some correction in selective attrition. Full information maximum likelihood is a model-dependent procedure that uses all available data points to construct the best possible estimates, thereby increasing the power of the analyses. Furthermore, we used a maximum likelihood robust (MLR) estimator to account for skewness and determined whether individual pathways were significantly different from one another using the Satorra–Bentler scaled chi-square difference test (Satorra, 2000). This test was developed for chi-square testing for continuous, nonnormally distributed outcomes.

Table 1. Psychometric Properties and Descriptive Statistics for All Measures.

Subscale	Mean (*SD*)	Skewness (*SE*)	Kurtosis (*SE*)	Range	α	No. of Items
Outcome variables						
Youth Self-Report (W-1)						
Externalizing behavior	62.75 (11.87)	−0.11 (0.22)	−0.42 (0.44)	30-100	.90	30
Adult Self-Report (W-2, W-3)						
Externalizing behavior	58.98 (12.41)	0.10 (0.26)	−0.60 (0.51)	30-100	.93	35
Externalizing behavior	61.08 (11.10)	−0.06 (0.24)	−0.04 (0.47)	30-100	.91	35
Self-Report of Offending (W-1)						
Violence	2.97 (1.87)	0.59 (0.22)	−0.58 (0.44)	0-7	.73	7
Delinquency	2.09 (1.78)	0.34 (0.23)	−1.30 (0.45)	0-6	.72	6
Self-Report of Offending (W-2)						
Violence	1.13 (1.36)	1.37 (0.26)	1.38 (0.51)	0-7	.68	7
Delinquency	0.67 (1.17)	1.83 (0.26)	2.76 (0.51)	0-6	.68	6
Self-Report of Offending (W-3)						
Violence	1.31 (1.44)	1.45 (0.24)	1.84 (0.48)	0-7	.71	7
Delinquency	1.06 (1.26)	1.25 (0.24)	1.02 (0.48)	0-6	.53	6
Predictor variables						
Youth Psychopathic Traits Inventory (YPI)						
YPI interpersonal	1.95 (0.65)	0.41 (0.22)	−0.49 (0.44)	1-4	.92	19
Dishonest charm	2.11 (0.85)	0.40 (0.22)	−0.84 (0.44)	1-4	.83	5
Grandiosity	2.12 (0.67)	0.28 (0.22)	−0.33 (0.44)	1-4	.57	4
Lying	1.68 (0.78)	1.26 (0.22)	1.12 (0.44)	1-4	.86	5
Manipulation	1.93 (0.77)	0.35 (0.22)	−0.75 (0.44)	1-4	.81	5
YPI affective	2.03 (0.46)	0.68 (0.22)	1.36 (0.44)	1-4	.72	15
Remorselessness	1.96 (0.62)	0.40 (0.22)	−0.11 (0.44)	1-4	.56	5
Unemotionality	2.16 (0.60)	0.57 (0.22)	0.51 (0.44)	1-4	.54	5
Callousness	1.98 (0.61)	0.43 (0.22)	0.02 (0.44)	1-4	.48	5
YPI behavioral	2.57 (0.63)	−0.37 (0.22)	−0.28 (0.44)	1-4	.85	15
Thrill seeking	2.89 (0.76)	−0.56 (0.22)	−0.31 (0.44)	1-4	.79	5
Impulsiveness	2.54 (0.75)	−0.20 (0.22)	−0.64 (0.44)	1-4	.71	5
Irresponsibility	2.28 (0.70)	−0.17 (0.22)	−0.70 (0.44)	1-4	.62	5
YPI total score	2.16 (0.48)	0.13 (0.22)	−0.50 (0.44)	1-4	.92	49
Psychopathy Checklist–Youth Version						
Interpersonal	3.90 (1.88)	0.05 (0.22)	−0.64 (0.44)	0-8	.55	4
Affective	4.39 (2.03)	−0.35 (0.22)	−0.32 (0.44)	0-8	.67	4
Behavioral	6.28 (1.76)	−0.04 (0.22)	−0.60 (0.44)	0-10	.43	5
Total: 13 items	14.63 (3.81)	−0.11 (0.22)	−0.43 (0.44)	0-26	.63	13

Psychometric and Descriptive Statistics

Table 1 summarizes the Cronbach's alpha scores for the YPI and PCL-YV. The internal consistency for the YPI subscales ranged from .48 to .86. Five of the subscales were below the standard .70 cutoff, whereas the other five were in the acceptable range. More specifically, affective subscales were less reliable than the interpersonal and behavioral subscales. The internal consistency of the three larger factors of the YPI (α = .72 to .92), were higher than that of the PCL-YV (α = .43 to .67). To determine whether the alphas would have been higher for the PCL-YV factors if they had the same number of items as the YPI, we applied the Spearman–Brown prediction formula (Anastasi & Urbina, 1997):

$$r_{nm} = (nr_{tt}) / (1+(n\text{-}1)*r_{tt}),$$

where *rnn* is the estimated coefficient, *r* is the obtained coefficient, and *n* is the number of times the test is lengthened. The estimated coefficients for the PCL-YV factors are higher when correcting for the higher number of test items with the interpersonal factor being a = .85, the affective factor being α = .88, the behavior factor being α = .69, and the total score being α = .87.

Convergent Validity of the YPI and PCL-YV

As Table 2 illustrates, the correlations between the PCL-YV and the YPI factor scores were nonsignificant to moderate (*r* = -.01 to .32). The PCL-YV interpersonal factor did not significantly correlate with any of the YPI factors and the strongest correlation was between the two affective factors (*r* = .32, *p* < .01). The correlation between the YPI total score and the PCL-YV total score was moderate.

Table 2. Correlations Between the Youth Psychopathic Traits Inventory (YPI) and Psychopathy Checklist–Youth Version (PCL-YV) Subscales.

	YPI-Int	YPI-Aff	YPI-Life	YPI-Tot	PCL-Int	PCL-Aff	PCL-Life	PCL-Tot13
YPI-Int	1.00							
YPI-Aff	.52***	1.00						
YPI-Life	.55***	.35***	1.00					
YPI-Tot	.90***	.71***	.79***	1.00				
PCL-Int	.05	.05	−.01	.04	1.00			
PCL-Aff	.20*	.32***	.19*	.27**	.32***	1.00		
PCL-Life	.24**	.28**	.24**	.30***	.01	.23*	1.00	
PCL-Tot13	.24**	.32***	.20*	.30***	.65***	.78***	.59***	1.00

Note. YPI-Int = YPI interpersonal factor; YPI-Aff = YPI affective factor; YPI-Life = YPI lifestyle factor; YPI-Tot = YPI total; PCL-Int = PCL-YV interpersonal factor; PCL-Aff = Factor 2, affective; PCL-Life = Factor 3, lifestyle; PCL-Tot13 = PCL-YV Factors 1, 2, and 3 combined.
*$p < .05$. **$p < .01$. ***$p < .001$.

Concurrent and Longitudinal Associations with Antisocial Behaviors

Figure 1 presents the concurrent and longitudinal associations between the YPI and PCL-YV factor scores and externalizing behaviors. First, in terms of differences between the measures, the YPI and PCL-YV lifestyle factor scores differed only in their concurrent association with YSR externalizing behaviors. At W-1, the YPI lifestyle factor was significantly

related to externalizing behaviors, but the PCL-YV lifestyle factor score was not. All other YPI and PCL-YV pathways were statistically equivalent in their relationship to YSR/ASR outcomes. At W-1, in addition to the YPI lifestyle factor, the YPI and PCL-YV affective factor score was also associated with YSR externalizing behaviors. At W-2, the YPI and PCL-YV affective factors continued to be significantly associated with ASR externalizing behaviors after adjusting for time at risk and prior externalizing scores. Last, no psychopathy factor was significantly associated with W-3 ASR externalizing behaviors, after accounting for time at risk and W-2 externalizing behaviors. In fact, only W-2 externalizing scores were related to W-3 externalizing scores.

Figure 2 presents the concurrent and longitudinal associations between the YPI and PCL-YV factor scores and violent offending. At W-1 the YPI and PCL-YV interpersonal factor scores were concurrently associated with violent offending. At W-2, the YPI and PCL-YV affective scores were significantly different in their relationship to SRO violence; the YPI affective factor, and not the PCL-YV affective factor, was associated to violent offending. There were no significant psychopathy predictors at W-3. Only W-2 SRO violence scores were associated with W-3 SRO violence scores.

Figure 3 illustrates the associations between psychopathy and SRO delinquency. First, unlike the SRO violence and externalizing behavior, no YPI and PCL-YV pathways were different in relation to either concurrent or longitudinal delinquency scores. At W-1, the YPI and PCL-YV affective scores had a negative relationship with SRO delinquency, whereas YPI and PCL-YV lifestyle had a positive association. The only significant predictor of W-2 delinquency was W-1delinquency.There were no significant associations at W-3.

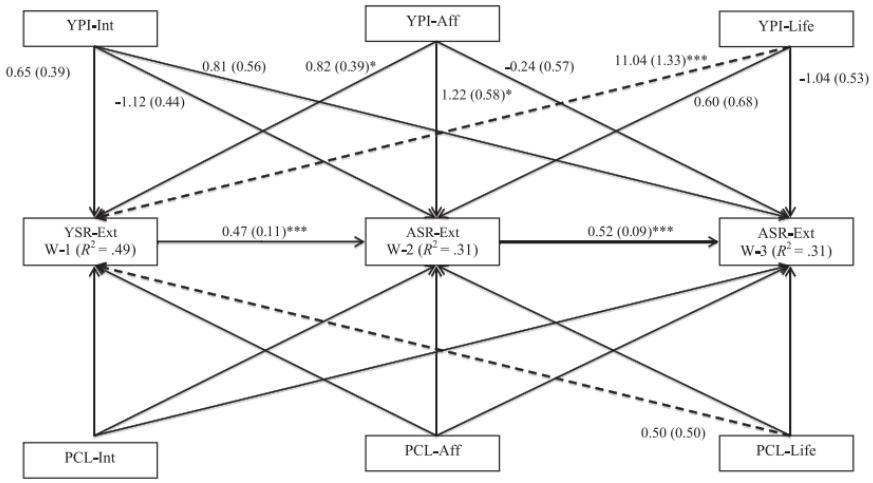

Figure 1. Unstandardized coefficients for autoregressive path analyses for Youth Self-Report (YSR) and Adult Self-Report (ASR) externalizing (Ext) scores using Youth Psychopathic Traits Inventory (YPI) and Psychopathy Checklist–Youth Version (PCL-YV) subscales.

Note. R^2 = Variance explained. YPI-Int = YPI interpersonal factor; YPI-Aff = YPI affective factor; YPI-Life = YPI lifestyle factor; PCL-Int = PCL-YV interpersonal factor; PCL-Aff = affective factor; PCL-Life = lifestyle factor. The dotted line suggests that the two pathways are significantly different from one another. ASR externalizing scores W-2 and W-3 adjusted for time at risk. Fit statistics relative to fully constrained model: χ^2 = 11.78; $\Delta\chi^2$ = 35.00; df = 13; Δdf = 1; p < .05; root mean square error of approximation (RMSEA) = .00; comparative fit index (CFI) = 1.00; standardized root mean square residual (SRMR) = .03. *p < .05. **p < .01. ***p < .001.

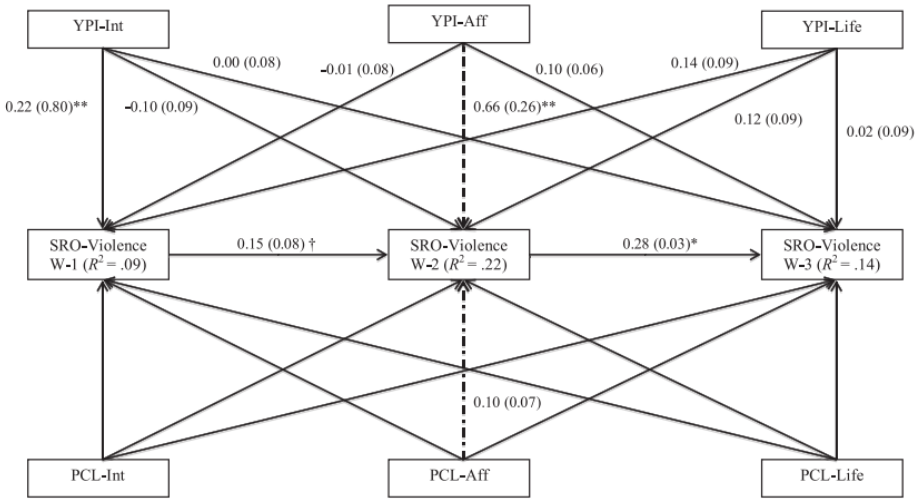

Figure 2. Unstandardized coefficients for autoregressive path analyses for Self-Report of Offending–violence subscale using Youth Psychopathic Traits Inventory (YPI) and Psychopathy Checklist–Youth Version (PCL-YV) subscales.

Note. R^2 = variance explained. YPI-Int = YPI interpersonal factor; YPI-Aff = YPI affective factor; YPI-Life = YPI lifestyle factor; PCL-Int = PCL-YV interpersonal factor; PCL-Aff = affective factor; PCL-Life = lifestyle factor. The dotted line suggests that the two pathways are significantly different from one another. SRO–violence W-2 and W-3 adjusted for time at risk. Fit statistics relative to fully constrained model: χ^2 = 19.43; $\Delta\chi^2$ = 3.92; df = 13; Δdf = 1; p < .05; root mean square error of approximation (RMSEA) = .06; comparative fit index (CFI) = .82; standardized root mean square residual (SRMR) = .04. †p = .05. *p < .05. **p < .01. ***p < .001.

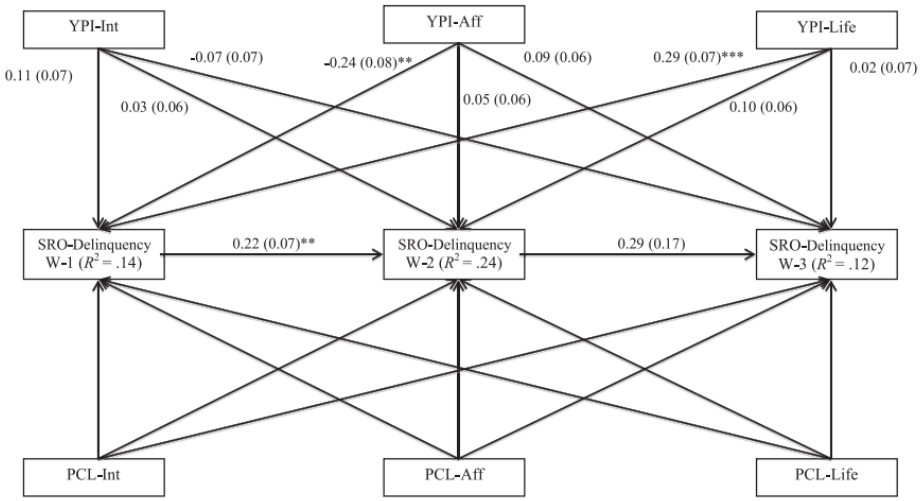

Figure 3. Unstandardized coefficients for autoregressive path analyses for Self-Report of Offending–delinquency subscale using Youth Psychopathic Traits Inventory (YPI) and Psychopathy Checklist–Youth Version (PCL-YV) subscales.

Note. R^2 = variance explained. YPI-Int = YPI interpersonal factor; YPI-Aff = YPI affective factor; YPI-Life = YPI lifestyle factor; PCL-Int = PCL-YV interpersonal factor; PCL-Aff = affective factor; PCL-Life = lifestyle factor. The dotted line suggests that the two pathways are significantly different from one another. SRO–violence W-2 and W-3 adjusted for time at risk. Fit statistics relative to fully free model: $\chi^2 = 14.57$; $\Delta\chi^2 = 9.36$; $df = 14$; $\Delta df = 9$; $p = ns$; root mean square error of approximation (RMSEA) = .02; comparative fit index (CFI) = .98; standardized root mean square residual (SRMR) = .04. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Discussion

This is the first study to longitudinally compare two measures of psychopathy, the YPI and PCL YV, among a group of serious offending girls at three distinct time points using self-report measures of externalizing behaviors as well as violent and delinquent offending. More specifically, we examined the psychometric properties of the YPI, investigated convergent validity between the YPI and PCL-YV, and explored concurrent and longitudinal association with antisocial behaviors.

The first hypothesis that the YPI would be internally consistent was supported. While approximately half the YPI subscales demonstrated low internal consistency, the three YPI factors yielded adequate internal consistency and were above the traditional .70 cutoff. As such, the psychometric properties of the YPI in this sample seem comparable to that of offending males (Cauffman et al., 2009; Skeem & Cauffman, 2003) and diverted youth (Poythress et al.,

2006). Furthermore, the alphas were in an acceptable range for the PCL-YV factors after adjusting for test length.

The second hypothesis that there would be small to moderate correlations between the two measures of psychopathy was also supported. Convergence between the YPI and PCL-YV ranged from nonsignificant to moderate, suggesting that these two measures may assess distinctive features of psychopathy. In general, the magnitude of the correlations is in line with previous research among offending males (Cauffman et al., 2009; Skeem & Cauffman, 2003). However, the pattern of correlations is in contrast to that seen in offending males. Previous research among offending males found that the PCL-YV interpersonal factor score was associated with YPI factor scores, with the two interpersonal factor scores demonstrating the strongest relationship (Cauffman et al., 2009; Skeem & Cauffman, 2003). However, we found no relationship between the PCL-YV interpersonal factor score and the YPI factor scores. Rather, the two interpersonal factor scores demonstrated the weakest, rather than the strongest, association. It is possible that (a) items such as grandiosity, lying, manipulation, and impression management/charm are more difficult to identify by interviewers among adolescent girls relative to boys; (b) adolescent girls display these characteristics in more gender-specific ways that are not picked up by one or both the measures; (c) the interviewers are scoring personality factors that these girls generally are not able to recognize in themselves and/or are unwilling to report; and/or (d) these two measures capture very divergent interpersonal characteristics. The behavioral factors on both measures were significantly correlated. Relative to interpersonal characteristics, traits such as stimulation seeking, impulsivity, and irresponsibility may be more readily identifiable among interviewers and interviewees and may be similar across gender. Lastly, the affective factors demonstrated the most robust correlation. This is impressive given

that concerns have been raised about the ability to assess affective characteristics validly through a self-reported format.

The third hypothesis, that there will be significant concurrent associations between both measures and externalizing behaviors, and violent and delinquent offending, was partially supported. The YPI and PCL-YV interpersonal factor scores were concurrently associated with violent offending and the YPI and PCL-YV lifestyle factor scores were concurrently associated with delinquent offending. Interestingly, the YPI and PCL-YV affective factor scores were negatively associated with delinquency. Last, the YPI lifestyle factor and the YPI and PCL-YV affective factor were concurrently associated with externalizing behaviors. The lack of a consistent pattern suggests that no one component of psychopathy is regularly associated with antisocial behaviors and highlights the need to use multiple outcomes when studying antisocial behavior. Notably, assessing antisocial outcomes concurrently is complicated by temporal issues, that is, we may have been capturing emerging personality traits and previous antisocial behavior. This may partially help explain the negative concurrent relationship between the affective factor scores and delinquency.

Within a 2-year follow-up, the YPI and PCL-YV affective factor was associated with externalizing behaviors, and the YPI affective factor was associated with violent offending. Previous research using the PCL-YV found that the behavioral factor is most predictive of rearrest among boys, but there is no association with rearrest among girls (Edens et al., 2007; Odgers et al., 2005; Vincent et al., 2008). Differences in these relationships may be driven by differences in outcomes assessed; the majority of the studies focused on rearrest. Two studies examined self-report of offending among offending males. Cauffman et al. (2009) found that the YPI interpersonal factor score and PCL-YV criminal behavior factor score (Hare's fourth factor)

were associated with short-term self-report of offending (approximately 6 months). On the other hand, Skeem and Cauffman (2003) found that the PCL-YV interpersonal factor score and none of the YPI factor scores were associated with violence approximately 1 month later based on self-reports and records. It may be that the affective component of psychopathy is a better predictor of problematic behaviors for girls, whereas the interpersonal component is a stronger factor for boys with regard to self-report of offending. Alternatively, as mentioned above, there may be gender differences in presentation and measurement of the interpersonal and affective components that influence their respective associations with future behavior. Lastly, it is possible that the interpersonal factor is a better predictor of problematic behavior for the short term (less than 1 year), whereas the affective factor is a better predictor for time points beyond a year, whereas the affective factor is better for time points beyond a year.

Psychopathy, regardless of measure, was not associated with antisocial behaviors approximately 4½ years later. As such, the long-term predictive value of psychopathy in adolescent girls remains questionable. Several factors may account for this lack of relationship. First, psychopathy-like traits in adolescence may be normative and/or transient (Edens et al., 2001; Seagrave & Grisso, 2002). Although research has found that psychopathic traits are reliably stable, the majority of this work has focused on offending boys or community samples (Forsman, Lichtenstein, Andershed, & Larsson, 2008; Frick et al., 2003; Lee et al., 2009; Loney, Taylor, Butler, & Iacono, 2007; Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007; Lynam, Charnigo, Moffitt, Raine, Loeber, & Stouthamer-Loeber, 2009; Neumann, Wampler, Taylor, Blonigen, & Iacono, 2011; Salekin, Rosenbaum, & Lee, 2008). As such, it is unclear whether psychopathic traits are stable among offending girls. It is possible that personality profiles may shift more dramatically for offending girls relative to offending boys. Future

research should examine the stability of psychopathy in offending and/or high-risk girls, specifically examining psychopathy at multiple time points to determine whether there is a bidirectional relationship between psychopathy and offending from adolescence into young adulthood.

Second, psychopathy as a construct may not be related to long-term antisocial behaviors in offending girls even when using self-reports of offending. Indeed, studies in the adult and youth literature support the notion that psychopathy is not as strong a correlate of antisocial behavior in offending females relative to offending males (Odgers et al., 2005; Salekin, Rogers, & Sewell, 1996; Salekin, Rogers, Ustad, & Sewell, 1998; Vincent et al., 2008; Warren et al., 2003).

Third, there may be a lack of adequate measurement of the construct of psychopathy itself among female adolescents. Even though we used two measures to assess psychopathy, other measures exist and may be better at capturing psychopathy in offending girls. The present results warrant replication and future research should continue to examine the relationship between psychopathy and antisocial behavior among offending girls.

With regard to both externalizing behaviors and violent offending, W-2 scores consistently demonstrated the strongest association with W-3 scores. This pattern may be indicative of the age–crime curve indicating that girls are aging out of criminal behavior. It further may be differentiating girls who are following a life-course persistent pattern of offending versus an adolescent limited pattern (Farrington, 1995; Moffitt, 1993). Indeed, girls were approximately 17 at W-1 and possibly still a part of the adolescent-limited offending taxonomy. However by W-2, the average age was approximately 21 years suggesting that those who were offending might be part of the life-course persistent group.

These findings should be considered in light of several limitations. First, the sample demonstrated extremely high levels of aggression and antisocial behavior at W-1, and findings may not generalize to less extreme samples of girls. Second, the two stronger associations between the YPI and the antisocial outcomes may be because of shared method variance. However, there is concern with using arrest records, given that previous research with the current sample found official records to be racially biased. More specifically we found no racial differences in self report of offending among Black and White girls after release (Chauhan, Reppucci, Burnette & Reiner, 2010). However, Black girls were significantly more likely to be rearrested, especially for nonviolent crimes. When neighborhood disadvantage was entered into the equation, race was no longer a significant predictor. This suggests that official records may be prone to someone getting caught because of surveillance issues versus an individual actually offending. Third, as previously mentioned, psychopathy scores may have changed significantly from W-1 to W-2 and W-3 and the stability of psychopathy should be assessed. Fourth, although our sample size precluded us from also examining models for total scores, it would be instructive to examine whether shared variance among the factors is useful in assessing future offending, as this may differ among girls and boys.

Despite such limitations, the current work has important implications. Our results suggest that the affective factor of psychopathy may represent a short-term risk factor for self-reported externalizing problems and violence among offending girls. It further suggests that a self-report measure such as the YPI may be a cost-effective way to measure violent behavior approximately 2 years later. However, psychopathy as a construct does not appear to be related to long-term offending patterns among girls, suggesting that other factors play a more salient role in continued

offending among this group. Future research should move beyond psychopathy and attempt to identify other promising risk factors for problematic outcomes among offending girls.

Notes

1. Odgers et al. (2005) have examined the psychometric properties of the PCL-YV among this group.

2. These domains have also been called Grandiose-Manipulative (interpersonal), Callous-Unemotional (affective), and Impulsive-Irresponsible (behavioral).

3. Because of an administrative error, Item 19 "I have talents that go far beyond other people" was replaced with "Other people's misfortunes do not usually disturb me a great deal." This item will, therefore, be omitted from future analyses and the grandiosity subscale will only contain four rather than five items.

4. Twenty-nine percent of the sample was younger than 18 years at the time of the W-2 interview. However, given the high degree of overlap between the YSR and the ASR and to prevent measurement confusion, we administrated the ASR to all individuals.

5. We did not include the subscales that comprise the externalizing broadband within the analyses given that the two measures had different types of subscales. The YSR is composed of Delinquency and Aggression, whereas the ASR is composed of Intrusive Behaviors, Rule-Breaking Behaviors, and Aggression.

6. For W-3, the prostitution question was assessed for "ever" rather than the last time we spoke.

7. Note that we wanted to include age and time at risk. However, because of model identification issues, we could include only one of these variables. We included time at risk as

this was more significant in the models. Furthermore, we ran the analyses with age and the pattern of results were identical.

8. Since the YPI interpersonal factor score was more strongly related to the PCL-YV affective factor and lifestyle factor scores, we conducted individual parameters testing with the YPI interpersonal factor and all three PCL-YV factor scores. There were no significant differences. As such, we present the results on the two theoretically comparable factors.

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